

material in his collection. He wrote that the description by Townsend was not then accessible. Upon looking up the list of types in our collection, I found the material, a male and a female, upon which Townsend based his description. A careful comparison with literature at hand, made by Dr. Williston, shows the three specimens to be without doubt identical. It is interesting to note, as showing the range of adaptability of this species, that the types were bred from cocoons of *Cimbex Americana*.

Here follows Dr. Hough's description:

**Sarcophaga (Tephromyia) hunteri** nov. sp. Three males and two females, bred from *Melanoplus differentialis* by Mr. S. J. Hunter in whose honor I have named it. Habitat Kansas.

Length five and one-half to seven millimetres. Color gray; the male rather brownish, the female whitish. Abdomen without the usual variable spots of a *Sarcophaga* but with three black stripes, a median and on each side a lateral; in the female the lateral stripes are quite faint and can only be seen well with a favorable incidence of light. Anal segments gray, retracted within the fourth segment in the males. Palpi yellow to yellowish brown. Antennæ brown with

the apex of the second joint and the base of the third yellow to a varying extent. Squamulæ white. Wings grayish hyaline; first longitudinal vein not spinose, third spinose for two-thirds to three-fourths of the distance to the small cross vein. Legs black; in the male more or less brownish gray pollinose, in the female whitish gray pollinose. Hind tibiæ of male not bearded.

Head—Front of male at narrowest point one-sixth the width of the head, from this point which is about at the junction of the dorsal and middle thirds the front widens both dorsad and ventrad. Front of female of uniform width, six-twentieths the width of the head. The exact measurements are: Male front 0.4 mm., head 2.5; female front 0.6 mm., head 2.0 mm.

Antennæ—Third joint more than twice as long as the second. Arista fully as long as the second and third joints together, composed apparently of but two joints of which the basal is very small and about as long as broad, the terminal tapering as usual (its basal and apical thirds black, its middle third whitish) and feathered for rather more than half its length with rather long, fine hairs. The yellow, or perhaps I should say reddish yellow, color is more extensive on the antennæ of the female than of the male.



The vibrissal angle is a little above the mouth edge and slightly but distinctly narrows the cypeus. Dorsad the principal vibrissa the vibrissal ridge is beset with small or minute bristles its entire length. Ventrad the principal vibrissa are about three smaller vibrissæ.

The dorso-ventral diameter of the bucca is one-third that of the eye. It is quite evenly beset with small bristles which are larger toward the edge of the mouth opening where they form a distinct bordering row.

Macrochætæ of vertex, front, etc. Male: By far the largest of the vertical bristles is the inner vertical, the outer vertical is scarcely if at all larger than the cilia of the posterior orbit. The greater ocellar are small, the lesser ocellar very small; of the latter there are several pairs and they extend over upon the occipital surface of the head beyond the postvertical pair which is small and very evidently a member of the ocellar group. The occipito-central is present and is about as large as the postvertical. There are two or three ascending and about eight decussating transverse frontals. The latter extend down upon the gena about as far as the apex of the second antennal joint. Upon the geno-plate laterad the frontals there are no large bristles but an irregular row of exceedingly minute hairs which begins at or a little dorsad of the middle of the geno-vertical plate and extends ventrad on the geno-vertical plate and on the gena nearly or quite to the ventral end of the latter. On the gena this row has a tendency to become double and the last three to five members of the anterior row are much larger than the rest, thus forming a rather prominent little group near the lower corner of the eye. The ciliæ of the posterior orbit are small, closely set and well aligned. Parallel to them is a second distinct row of bristles of about the same size.

Female: The bristles of the head of the female differ from those of the male as follows. The outer vertical is almost as well developed as the inner vertical. The transverse frontals number but five or six. The row of minute hairs on the geno-vertical plate and gena has a lesser tendency to become doubled on the gena. Two good sized orbital bristles are present.

Thorax—The thorax is striped as is usual in *Sarcophagæ*. The stripes are very distinct in the male and quite faint in the female. The chætotaxy of the thorax is alike in the two sexes and is indicated in the accompanying diagram. The female has a smaller number of minute bristles than the male and consequently its chætotaxy is more easily made out. In the diagram I have indicated three post

humeral bristles. The two smaller ones are in but one specimen large enough to be distinguished from the other hairs or microchaetae. This variation of the posthumeral is common in *Sarcophaga*.

Abdomen—The macrochaetae of the abdomen are marginal only. Each segment has a complete row. On the first and second segments they are all of insignificant size except two or three at the lateral border. On the third segment all are of good size and they number twelve to fourteen. On the fourth segment all are of good size and they number fourteen to sixteen.

The bristles of the legs are arranged as is usual in *Sarcophaga*. I can make out nothing worthy of especial notice here.

Wing—First longitudinal vein not spinose. Third vein not spinose for two-thirds to three-quarters of the distance to the small cross vein. Elbow of fourth almost exactly rectangular and provided with an apparent appendix which, however, is not a stump of a vein but a slight fold or wrinkle of the wing. Hind cross vein sinuous, longer than, but hardly twice as long as, that segment of the fourth vein between it and the elbow. Hind cross vein and apical cross vein almost exactly parallel.

This species belongs to Brauer's subgenus *Tephromyia* of *Sarcophaga* (sens. lat.). In this subgenus the vibrissal angles are distinctly above the mouth edge and, projecting somewhat mesad, distinctly narrow the clypeus. The abdomen does not have the changeable spots, maculae spuriae, of *Sarcophaga* but is either unicolorous or marked with fixed spots or lines. The European species of this group are *T. grisea* Meig., *T. lineata* Fall., *T. affinis* Fall., and *T. obsoleta* Fall. As far as I am aware *hunteri* is the first *Tephromyia* to be observed outside of Europe. Through the kindness of Herr Paul Stein of Genthin, Germany I have now in my possession specimens of *grisea*, *affinis* and *obsoleta*. From these specimens and the accessible descriptions of *lineata* I am able to construct the following table for separating the species of this group,

A—Abdomen unicolorous, squamulae yellow, wings strongly yellow at base—*grisea* Meig.

AA—Abdomen with distinct black markings, squamulae not yellow, wings not strongly yellow at base. B.

B—Palpi black. C.

C—Each abdominal segment with a black dorsal line and on each side with a narrow, oblique, black spot. These spots often

united so that the abdomen presents three black stripes. Front of male one-third the width of the head.—*lineata* Fall.

CC—First abdominal segment blackish, other segments each with a dorsal black line and on each side with a large irregularly shaped black spot. Front of male one-fifth the width of the head; of female one-third the width of the head—*affinis* Fall.

BB—Palpi yellow or brownish yellow.

D—Front of male one-fourth as wide as the head; third antennal joint less than one and a half times as long as the second; no intraalar bristle in front of the suture—*obsoleta* Fall.

DD—Front of male one-sixth, of female less than a third as wide as the head; third antennal joint more than twice as long as second; with an intraalar bristle in front of suture—*hunteri* n. sp.